

CLAIMS

What is claimed is:

1. A baffle isolation system, comprising:
at least a portion of a bumper within first and second resistant members, where the bumper is adapted to insert into a baffle opening formed within a baffle, and the baffle is between the first and second resistant members; and
a hollow shaft adapted to insert through a plurality of openings formed in the bumper and the first and second resistant members, where opposite ends of the hollow shafts are adapted to couple to first and second caps, respectively, where the second cap is adapted to couple to the housing so that the baffle substantially isolates loads in a radial direction between the baffle and the housing, and the first and second resistant members substantially isolate loads in a longitudinal direction between the baffle and the housing.
2. The system according to claim 1, further including a sleeve having sleeve opening, where the sleeve is between the bumper and the hollow shaft that allows the hollow shaft to slidably move in the radial direction relative to the bumper.
3. The system according to claim 1, where the second resistant member is adapted to insert into an isolation opening formed within the baffle.
4. The system according to claim 1, where the bumper, the first resistant member, and the second resistant members are made of materials having different durometers.

5. An isolation system, comprising:
 - a bumper between a first and second resistant members, where the bumper is adapted to fit into a baffle opening, and an opening is formed through the bumper and the first and second resistant members;
 - a hollow shaft between a first cap and a second cap, where the hollow shaft is adapted to insert through the opening, where the second cap is adapted to couple to a housing to substantially isolate loads in a radial direction between the a baffle and the housing, and the first and second resistant members substantially isolate loads in a longitudinal direction between the baffle and the housing.
6. The isolation system according to claim 5, where the bumper, the first resistant member, and the second resistant member are a unitary isolation mechanism.
7. The isolation system according to claim 5, where the first and second resistant members each have a bore adapted to receive at least a portion of the bumper, where the bumper has a cavity adapted to receive the baffle opening.
8. The isolation system according to claim 5, further including a sleeve having sleeve opening, where the sleeve is between the bumper and the hollow shaft that allows the hollow shaft to slidably move in the radial direction relative to the bumper.
9. The isolation system according to claim 5, where the bumper, the first resistant member, and the second resistant member are made of an elastomeric material having a durometer measurement between about 20 and about 100.
10. The isolation system according to claim 9, where the elastomeric material is sorbothane.

11. The isolation system according to claim 5, where the bumper is made of material having a different durometer measurement than the first and second resistant members' durometer measurements.

12. The isolation system according to claim 5, further including a washer in between the first resistant member and the first cap.

13. The isolation system according to claim 5, further including a washer in between the second resistant member and the second cap.

14. The isolation system according to claim 5, where the second cap has a second recess adapted to receive a second end of the hollow shaft.

15. The isolation system according to claim 5, where the first and second resistant members each have a bore that forms a lip with a sidewall having a thickness that varies from the lip to opposing end of each of the first and second resistant members.

16. The isolation system according to claim 15, where the thickness of the sidewall increases from the lip of the resistant member to the opposing end of the resistant members.

17. The isolation system according to claim 5, including a gasket between the baffle and the housing.

18. A system for isolating a baffle from a housing, comprising:
- a bumper adapted to fit into a baffle opening to substantially isolate loads in a radial direction between the baffle and the housing, where the bumper is between a first resistant member and a second resistant member, where an opening is formed through the bumper and the first and second resistant members;
 - a hollow shaft adapted to slidably insert through the opening, and the hollow shaft is between a first cap and a second cap, where the second cap is coupled to the housing to substantially isolate loads in a longitudinal direction between the baffle and the housing.
19. The isolation system according to claim 18, where the bumper, the first resistant member, and the second resistant member are a unitary isolation mechanism.
20. The isolation system according to claim 18, where the first and second resistant members each have a bore adapted to receive at least a portion of the bumper, where the bumper has a cavity adapted to receive the baffle opening.
21. The isolation system according to claim 18, further including a sleeve having sleeve opening, where the sleeve is between the bumper and the hollow shaft that allows the hollow shaft to slidably move in the radial direction relative to the bumper.
22. The isolation system according to claim 18, where the bumper, the first resistant member, and the second resistant member are made of an elastomeric material having a durometer measurement between about 20 and about 100.

23. The isolation system according to claim 22, where the elastomeric material is sorbothane.

24. The isolation system according to claim 18, where the bumper is made of material having a different durometer measurement than the first and second resistant members' durometer measurements.

25. The isolation system according to claim 18, further including a washer in between the first resistant member and the first cap.

26. The isolation system according to claim 18, where the first and second resistant members each have a bore that forms a lip with a sidewall having a thickness that varies from the lip to opposing end of each of the first and second resistant members.

27. The isolation system according to claim 26, where the thickness of the sidewall increases from the lip of the resistant member to the opposing end of the resistant members.

28. A method for isolating a baffle from a housing, comprising:
isolating a baffle from a housing against loads in a radial direction; and
isolating the baffle from the housing against loads in a longitudinal direction.

29. The method according to claim 28, where the isolating loads in the radial direction is substantially done by a bumper restricted from moving in the radial direction, where the bumper is made of an elastomeric material and is placed between the baffle and the housing so that the bumper substantially isolates the baffle from the housing against the loads in the radial direction.

30. The method according to claim 28, where the isolating loads in the longitudinal direction is substantially done by placing the baffle between a first resistant member and a second resistant member that are restricted from moving in the longitudinal direction, where the first and second resistant member are made of elastomeric material so that the first and second resistant member substantially isolate the baffle from the housing against loads in the longitudinal direction.

31. The method according to claim 28, further including forming the bumper and the first and second resistant members from a unitary isolation system.

32. The method according to claim 28, where the elastomeric material for the bumper and the first and second resistant members each have a different durometer measurement.

33. The method according to claim 28, further comprising selecting durometer measurements for the bumper and the two resistant members depending on the loads being applied to the bumper and to each of the two resistant members.

34. The isolation system for isolating a baffle from a housing, comprising:
means for isolating a baffle in a longitudinal direction relative to a housing;
and
means for isolating the baffle in a radial direction relative to the housing.

35. The isolation system according to claim 34, where the means for isolating the baffle radially relative to the housing is a bumper between the baffle and the housing.

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36. The isolation system according to claim 35, where the means for isolating the baffle in a longitudinal direction relative to the housing is the baffle between two resistant members, where the two resistant members are restricted to move longitudinally relative to the housing and the baffle.